

In the transmit mode, microcontroller 42 reads data to be transmitted from dual-port memory unit 44 and provides the data in parallel form to CRC calculation unit 30. A serial data stream is thus transferred to CRC calculation unit 30 in parallel data units (e.g., bytes or words).

In the receive mode, CRC calculation unit 30 is coupled to receive the serial data stream produced by zero bit insertion unit 32.

**In the Claims:**

11. (Amended) A method for transmitting and receiving a serial data stream including alternating portions of multiple serial data channels, comprising:

providing a plurality of functional units each configured to perform a specific function of a serial communication protocol upon the portions of the multiple serial data channels, wherein each functional unit is a state machine having a set of unique operating states, and wherein state information stored within a given functional unit determines the one of the unique operating states in which the functional unit is operating; and

transferring state information between the plurality of functional units and a memory unit such that the plurality of functional units operates alternately upon the portions of the multiple serial data channels.

**REMARKS**

The Specification and claim 11 have been amended. Claims 1-16 are currently pending in the case. Further examination and reconsideration of the presently claimed application is respectfully requested.